Wochenbericht II Poseidon cruise POS520

Investigating deep water column biodiversity and ecology of the Cape Verde Islands

Weekly report 21/2/2018-1/3/2018

After leaving the Bay of Tarrafal, we started the second week of deep-sea biological work in Cape Verde waters off the volcanic island of Fogo (14° 45.506'N 24° 22.43'W) on February 22. Again the conditions in the leeway of the island proved to be very suitable for our operations and no work was canceled due to weather conditions and the scientific plan could be executed as scheduled.

One of the exciting results we obtained with the JAGO was the documentation and collection of giant larvaceans of the genus *Bathochordaeus*. These fragile organisms are known to play an important role in the carbon flux off central California. Our observations and the specimens collected during POS520 are one of the first in the Atlantic for this genus. Further inspection and DNA analysis will determine if they are a known or a new species, but their abundance in Cape Verde waters suggests that here too they are important in transporting carbon into the deep sea.

The deep-sea amphipod Cystosoma magna *which was captured by the JAGO submersible and photographed on board POSEIDON (image credit: Karen Osborn).*

We also collected various species of fish, gelatinous zooplankton and cephalopods with the multinet maxi. Of these specimens we collected tissue samples for DNA bracoding as well as scientific photographs. Overall more than 2400 good photographs have been made from collected specimens. All multinet catches were preserved for further identification and quantification in the lab after the cruise.

On February 25 we left the leeway of Fogo to sample a station further off shore as satellite imagery showed a very high productivity in this particular region. We performed microstructure sections, multinet and PELAGIOS deployments as well as CTD casts. On February 26 we started with a JAGO dive at 08.00 in the morning on the 1000 m bathymetry line inshore of Fogo. This dive was followed by the recovery of a Slocum Glider in the afternoon, which was a very quick operation due to the calm seas. In the evening we performed the last JAGO dive of the cruise (#14) after which we started transiting north to our last station.

The last station of our cruise was the oceanic time series station Cape Verde Ocean Observatory (17° 36'N 24° 15'W). Despite a large, long oceanic swell, we were able to perform CTDs, PELAGIOS deployments and multinet sampling (Maxi and Midi) during day and night.

The cruise operations stopped on February 28 at 14.00 in the afternoon, and the team started packing before and during the transit back to Mindelo. POSEIDON docked in Mindelo on March 1 at around 10.00. At 18.00 the container that was ready for us on shore was packed and loaded back on board POSEIDON for transit to Las Palmas. POS520 had come to an end.

The cruise has also been covered in 6 blogs on: http://www.oceanblogs.org/

We want to thank the captain and the crew of POSEIDON, as well as GEOMAR Helmholtz Centre for Ocean Research Kiel for their support in making this cruise a success!